

Page 9, first paragraph, lines 1-5, replace with the following paragraph:

A2 As described in co-pending U.S. Patent Application No. 09/159,695, the nMCI Interact system architecture is basically organized as a set of common components comprising the following:

Page 9, sixth paragraph, lines 18- 25, replace with the following paragraph:

Q3 Each of these common component areas will be generally discussed hereinbelow. A detailed descriptions of each of these components can be found in a related, co-pending U.S. Patent Application U.S.S.N. 09/159,695 entitled INTEGRATED CUSTOMER INTERFACE SYSTEM FOR COMMUNICATIONS NETWORK MANAGEMENT, the disclosure of which is incorporated herein by reference thereto.

Page 10, last paragraph, lines 27-30 to Page 11, lines 1-19, replace with the following paragraph:

Q4 Generally, as explained in U.S. Patent Application No. 09/159,515, now U.S. Patent No. 6,115,040, entitled GRAPHICAL USER INTERFACE FOR WEB ENABLED APPLICATIONS, the disclosure of which is incorporated herein by reference thereto, the customer workstation includes client software capable of providing a platform-independent, browser-based, consistent user interface implementing objects programmed to provide a reusable and common GUI abstraction and problem-domain abstractions. More specifically, the client-tier software is created and distributed as a set of Java classes including the applet classes to provide an industrial strength, object-oriented environment over the Internet. Application-specific classes are designed to support the functionality and server interfaces for each application with the functionality delivered through the system being of two-types: 1) cross-product, for example, inbox and reporting functions, and 2) product specific, for example, toll free network management or Call Manager functions. The system is capable of delivering to customers the functionality appropriate to their product mix.

Page 11, last paragraph, lines 28-30 and Page 12, lines 1-24, replace with the following paragraph:

Q5 The Customer Browser 20, is browser enabled and includes client applications responsible for presentation and front-end services. Its functions include providing a user interface to various MCI services and supporting communications with MCI's Intranet web server cluster 24. As illustrated in Figure 3, and more specifically described in the above-mentioned, U.S. Patent Application No. 09/159,515, now U.S. Patent No. 6,115,040 entitled GRAPHICAL USER INTERFACE FOR WEB ENABLED APPLICATIONS, the client tier software is responsible for presentation services to the customer and generally includes a web browser 14 and additional object-oriented programs residing in the client workstation platform 20. The client software is generally organized into a component architecture with each component generally comprising a specific application, providing an area of functionality. The applications generally are integrated using a "backplane" services layer 12 which provides a set of services to the application objects which provide the front end business logic and manages their launch. The networkMCI Interact common set of objects provide a set of services to each of the applications such as: 1) session management; 2) application launch; 3) inter-application communications; 4) window navigation among applications; 5) log management; and 6) version management.

Page 16, first paragraph, lines 15-30 and Page 17, lines 1-18, replace with the following paragraph:

A6 As described in greater detail in co-pending U.S. Patent Application No. 09/159,514 entitled SECURE CUSTOMER INTERFACE FOR WEB-BASED DATA MANAGEMENT, the contents and disclosure of which is incorporated by reference as if fully set forth herein, a networkMCI Interact session is designated by a logon, successful authentication, followed by use of server resources, and logoff. However, the world-wide web communications protocol uses HTTP, a stateless protocol, each HTTP request and reply is a separate TCP/IP connection, completely independent of all previous or future connections between the same server and client.

Q6 cont The nMCI Interact system is implemented with a secure version of HTTP such as S-HTTP or HTTPS, and preferably utilizes the SSL implementation of HTTPS. The preferred embodiment uses SSL which provides a cipher spec message which provides server authentication during a session. The preferred embodiment further associates a given HTTPS request with a logical session which is initiated and tracked by a "cookie jar server" 28 to generate a "cookie" which is a unique server-generated key that is sent to the client along with each reply to a HTTPS request. The client holds the cookie and returns it to the server as part of each subsequent HTTPS request. As desired, either the Web servers 24, the cookie jar server 28 or the Dispatch Server 26, may maintain the "cookie jar" to map these keys to the associated session. A separate cookie jar server 28, as illustrated in Figure 2 has been found desirable to minimize the load on the dispatch server 26. This form of session management also functions as an authentication of each HTTPS request, adding an additional level of security to the overall process.

Page 26, first paragraph, lines 18-28 and Page 27, lines 1-13, replace with the following paragraph:

Q7 Further as shown in the DMZ 17 is a second RTM server 52 having its own connection to the public Internet via a TCP/IP connection 48. As described in co-pending U.S. Patent Application No. 09/159,516, entitled INTEGRATED PROXY INTERFACE FOR WEB BASED TELECOMMUNICATIONS MANAGEMENT TOOLS, incorporated by reference as if fully set forth herein, this RTM server provides real-time session management for subscribers of the networkMCI Interact Real Time Monitoring system. An additional TCP/IP connection 48 links the RTM Web server 52 with the MCI Intranet Dispatcher server 26. As further shown in Figure 5, a third router 65 is provided for routing encrypted subscriber messages from the RTM Web server 52 to the Dispatcher server 26 inside the second firewall. Although not shown, each of the routers 55, 65 may additionally route signals through a series of other routers before eventually being routed to the nMCI Interact Dispatcher server 26. In operation, each of the Secure servers 24 function to decrypt the client message, preferably via th SSL implementation, and unwrap the session key and verify the users session from the COUSser object authenticated at Longon.

Page 27, last paragraph, lines 21-29, replace with the following paragraph:

Q8 As described herein, and in greater detail in co-pending U.S. Patent Application No. 09/159,695, the data architecture component of networkMCI Interact reporting system is focused on the presentation of real time (un-priced) call detail data, such as provided by MCI's TrafficView Server 34, and priced call detail data and reports, such as provided by MCI's StarODS Server 33 in a variety of user selected formats.

Page 28, last paragraph, lines 18-30 and Page 29, lines 1-5, replace with the following:

Q9 The Infrastructure component of the nMCI Reporting system includes means for providing secure communications regardless of the data content being communicated. As described in detail in above-referenced, co-pending U.S. Patent Application No. 09/159,514, the nMCI Interact system security infrastructure includes: 1) authentication, including the use of passwords and digital certificates; 2) public key encryption, such as employed by a secure sockets layer (SSL) encryption protocol; 3) firewalls, such as described above with reference to the network architecture component; and 4) non-repudiation techniques to guarantee that a message originating from a source is the actual identified sender. One technique employed to combat repudiation includes use of an audit trail with electronically signed one-way message digests included with each transaction.

Page 30, first paragraph, lines 1-15, replace with the following paragraph:

Q10 To provide the areas of functionality described above, the client tier 10 is organized into a component architecture, with each component providing one of the areas of functionality. As explained in further detail in co-pending U.S. Patent Application No. 09/159,515, the client-tier software is organized into a "component" architecture supporting such applications as inbox fetch and inbox management, report viewer and report requestor, TFNM, Event Monitor, Broadband, Real-Time Monitor, and system administration applications. Further functionality integrated into the software architecture includes applications such as Outbound Network Manager, Call Manager, Service Inquiry and Client View.

Page 31, last paragraph, lines 17-30, Page 32, lines 1-30 and Page 33, lines 1-18, replace with the following:

Q11 The Report Manager ("RM") server 250 is an application responsible for the synchronization of report inventory with the back-end "Fulfilling" servers 400, 500; retrieval of entitlements, i.e., a user's security profiles, and report pick list information, i.e., data for user report customization options, from the system Order Entry server 280; the transmission of report responses or messages to the Dispatcher server 26 (Figure 6); the maintenance of the reporting databases; and, the management of metadata used for displaying reports. In the preferred embodiment, the RM server 250 employs a Unix daemon that passively listens for connect requests from the GUI client applications and other back-end servers and deploys the TCP/IP protocol to receive and route requests and their responses. Particularly, Unix stream sockets using the TCP/IP protocol suite are deployed to listen for client connections on a well-known port number on the designated host machine. Client processes, e.g., report requestor 212, desiring to submit requests connect to RM 250 via the dispatcher 26 by providing the port number and host name associated with RM 250. For a particular back-end server 400 providing priced reporting data, a Talarian smart socket connection 254 is provided. Request messages received by the RM server are translated into a "metadata" format and are validated by a parser object built into a report manager proxy 250' that services requests that arrive from the GUI front-end. If the errors are found in the metadata input, the RM 250 will return an error message to the requesting client. If the metadata passes the validation tests, the request type will be determined and data will be retrieved in accordance with the meta data request after which a standard response will be sent back to the requesting client. As shown in Figure 6, interface sockets 252 are shown connecting the Dispatcher server 26 and the RM server 250 and, other socket connections 254, 256 are shown interfacing with respective back end servers 400 and 500. In one embodiment, server 400 provides a customer's priced billing data through a Talarian smart socket messaging interface 254 to the Report Manager. Particularly, as described in commonly owned, co-pending U.S. Patent Application No. 09/159,684, a back-end billing mainframe application known as the StarODS server provides such priced call detail data.

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Additionally, as shown in Figure 6 and described in commonly owned, co-pending U.S. Patent Application No. 09/159,404, the contents and disclosure of which are incorporated by reference as if fully set forth herein, call detail data is FTP'd directly to the Inbox Server and a message is sent to the report manager server 250 from the Traffic View server ("TVS") 500. Although not shown in Figure 6 it should be understood that the RM 250 server can manage reporting data for customer presentation from other back-end and legacy servers including, e.g., Broadband, Tool Free Network Management, and Event Monitor servers, etc. in order to present to a customer these types of network management and reporting data.

Page 59, last paragraph, lines 15-28, replace the with the following paragraph:

A12
As described herein, when the user requests call detail for a particular period of time, this request is translated by the StarWRS component into a metadata file which is sent to TVS in the manner described herein. Users schedule reports for execution using the Report Scheduler in StarWRS in the manner as described in co-pending U.S. Patent application Number 09/159,409. When the user has completed report selection, modifications and scheduling, the StarWRS Report Scheduler component 260 creates a metadata message comprising this information which file is passed to TVS in real time. The TVS then uses this file to formulate a query and runs the report for the scheduled time period.

Page 60, last paragraph, lines 8-30, to Page 61, lines 1-23, replace with the following paragraph:

A13
As shown in the process flow diagram of Figure 12(a), a user first establishes communication with the DMZ Web server at step 602 and logs on to the nMCI Interact system by entering the user's name and password onto a logon dialog box, as indicated at step 604.

Then, at steps 606-608, an application running on the backplane directs a "Validate User Message" common object to the StarOE server 280 via the web server and dispatcher servers (Figure 2) to direct the StarOE server 280 to perform security validation and authenticate the user ID and password in the manner as described in commonly owned, co-pending U.S. Patent Application Serial No. 09/159,514, entitled AUTHENTICATION AND ENTITLEMENT OF

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A13
WEB BASED DATA MANAGEMENT PROGRAMS, the contents and disclosure of which is incorporated by reference herein. It is understood that all communication to the StarOE server is via TCP/IP with a Unix process listening on a known TCP port. The StarOE server acts as a proxy when messages are sent from the Dispatcher server 26 and supports synchronous transactions. All data and security information is accessed by direct queries to a StarOE server database 283, such as provided by Informix. Once a user is logged on, the Web Server 24 (Figures 2 and 6) requests a current list of authorized applications from the StarOE server 285 as indicated at steps 608 and 610. Particularly, as described in co-pending U.S. Patent Application Serial No. 09/159,408, the contents and disclosure of which is incorporated by reference herein, a "Get User Application Request" message is communicated to the StarOE server via the backplane from the report requestor which queries the Informix database to obtain a list of authorized applications, i.e., services, for the user and which determines which button on the home page are active, thus controlling their access to products. This information is downloaded by a GUI applet that is executed via the Backplane (Figure 3) and incorporated into the home page that is presented to the user as indicated at steps 612-614. An exemplary home page screen display 80 is shown in Figure 4 which provides a list of icons 70 representing the possible options available to the user according to that customer's entitlements.

Page 61, first paragraph, lines 24-30 to Page 62, lines 1-6, replace with the following paragraph:

A14
Appendix H of co-pending U.S. Patent Application No. 09/159,409 provides the format and content of the nMCI Interact common objects downloaded to the Report Requestor client application to enable web-based reporting. As shown in above-referenced Appendix H, the Report Requestor first asks for common objects for a user's default timezone, language and currency. The Report Requestor objects are invoked to retrieve from StarOE the various customer entitlements relating to security, geographical hierarchy, billing hierarchy, and paging and e-mail notification, as further shown in Appendix H.

Page 64, first paragraph, lines 15-30 to Page 65, lines 1-4, replace with the following paragraph:

Q15 Whether creating a new report or editing an existing report, the user is enabled to select customization options as indicated at step 630, Figure 7(b) form a new dialog screen that is presented to the user showing all the report customization categories for building a new report and/or editing an existing report. From this screen and related report building dialog boxes, all of the initial values for retrieving the MetaData, customization options and GUI builder options from the report manager server 250 necessary to build (edit) a report are provided in accordance with the user's entitlements. As described in greater detail in co-pending U.S. Patent Application No 09/159,409, a user may provide the following customization and report builder options: general customization options; layout customization options; access customization options; hierarchy customization options; geographic customization options; and, notification customization options.

Page 85, second paragraph, lines 4-33 to Page 86, lines 1-17, replace with the following paragraph:

Q16 Appendix C provides a table showing the fields for the metadata messaging between the RM server 250 and the Inbox server 270 for adding an item into the StarWRS system Inbox server 270, and the respective acknowledgment message format from the Inbox server. In the "A" message found in Appendix C, the "LOC" field includes information about where the report data is located. For example, a metadata message indicating to the Inbox server that an unpriced TVS fulfilling server report is available is shown as:

A<CATEGROY=R, TYPE=traffic,REQUESTID=32197,
USERID=LynneLevy2, RPTID=150, PRIORITY=,COMPRESS=0,
UNOTIFY=0,MMADDR=,MMTEXT=,PGT=,PGPIN=,PGTXT=,
RPTCATEGORY=Service Location & Hour,
LOC=/inbox/files/testTVS/9025112294STD RPTID10.CSV,ENTPID
=10324488,RQSTDT=1998-01-02
15:18, FSIZE=3705,RPTTITLE=Summary by Service Location and
Hour,MSIZE=3322>